



## ARL is an Authority on Nutrition and the Science of Balancing Body Chemistry Through Hair Tissue Mineral Analysis!

Hair Tissue Mineral Analysis


[home](#)
[About](#)
[Hair Analysis](#)
[Lab Profile](#)
[Educational Material](#)
[Mineral Information](#)
[Contact](#)

# Anemia and Iron Storage

[Home](#) » [Newsletters](#) » Anemia and Iron Storage

Anemia refers to a low number of red blood cells, low hemoglobin, or a low volume of red cells in the blood. A medical dictionary lists over 100 causes of anemia and iron storage problems. Hair mineral analysis may help identify some of these causes and guide their correction using natural methods.

## Causes Of Anemia

Some types of anemia are inherited, such as sickle-cell anemia and thalassemia. Others are caused by nutrient deficiencies including iron, copper and vitamin B<sub>12</sub>. Others are caused by a failure of the bone marrow to make enough red blood cells. This occurs in some cancers and due to chemical exposure and drug reactions.

Still other anemias are due to an excessive destruction of red blood cells. These are called *hemolytic anemias*. They may be inherited or acquired.

Anemia may also be caused by internal bleeding, or by the presence of toxic levels of lead or other poisons. Bacteria, viruses, protozoa and parasites may also cause anemia.

## Iron Deficiency Anemia

Iron deficiency anemia is common in people who have lost blood, pregnant or menstruating women and children who subsist on milk or eat an iron-poor diet.

Milk is a poor source of iron. Also, the large curds in cows milk may irritate a baby's intestine. This can cause bleeding which may contribute to anemia in a young child. Iron pills, which are irritating to the intestines, may aggravate this condition.

If iron deficiency is the problem, it is fairly easy to correct. Iron is best absorbed in the form of liver tablets or chelated iron. Many times, increasing iron in the diet will correct the problem. If increased iron intake does not improve a microcytic or iron deficiency type of anemia, one may suspect a copper deficiency anemia.

It is important to understand that a hair iron level is a tissue reading, not a blood reading. A low hair iron does not always indicate anemia, although it may indicate a trend towards anemia.

## Copper Anemia

Hair analysis reveals that many people have biounavailable copper, or a copper deficiency. Either can disrupt normal blood formation.

Copper is needed to convert ferrous to ferric iron and to incorporate iron into hemoglobin. Copper deficiency anemia looks like iron deficiency anemia on a blood test and one may confuse the two.

A low hair copper level is more common in fast oxidizers. It is usually accompanied by a low calcium level and often by a low zinc level.

Biounavailable copper may be revealed as a low or high hair copper, a low sodium/potassium ratio, a low sodium, or potassium level, or an elevated calcium level.

A low zinc/copper ratio may indicate a copper imbalance however, it is often impossible to determine the type of imbalance simply from the zinc/copper ratio.

The solution for this type of anemia is to restore proper copper metabolism. In the fast oxidizer with low copper, a chelated copper supplement is most helpful.

If copper is biounavailable, giving a small amount of copper may be helpful for a while, however, permanent correction requires restoring adequate adrenal gland activity. The adrenal glands stimulate the liver to produce ceruloplasmin, the main copper-binding protein. The cells can only use protein-bound copper. Restoring adrenal activity usually requires an entire nutritional balancing program, including a proper diet, supplement program and healthful lifestyle.

## Lead Anemia

Lead poisoning is a less common but important cause of anemia. Lead contributes to anemia in two ways. Lead inhibits the incorporation of iron into the heme molecule. It also inhibits an enzyme, 5-nucleotidase, needed to make blood. This causes a hemolytic anemia. Hair analysis is an excellent method to help identify chronic lead toxicity.

## Vitamin Deficiencies

Many vitamins play a role in blood formation. Anemia can result from a deficiency of vitamin B<sub>6</sub>, B<sub>12</sub>, folic acid, or vitamin C. Liver or kidney disease, due to nutritional imbalances, can also cause anemia. Malabsorption, caused by a gluten sensitivity or other factors, may cause anemia.

Conditions such as alcoholism often interfere with proper diet. This can contribute to an anemic condition. Strict vegetarian diets may be low in vitamin B<sub>12</sub>, causing a serious condition called pernicious anemia.

## Infections And Anemia

Chronic or acute infections can cause anemia. When an infection is present, the body will remove iron from the blood and replace it with copper. This is because iron favors the growth of bacteria. Copper has an anti-bacterial effect.

The solution is to correct the infection. The anemia will then subside. Giving supplemental iron when an infection is present may worsen the infection.

## Iron Storage Diseases

Hemosiderosis and hemochromatosis are iron storage diseases. They are not common, but can cause serious illness. Iron becomes biounavailable and builds up in the tissues. This can cause cirrhosis of the liver, diabetes, cardiomyopathy or congestive heart failure. High tissue iron is also associated with feelings of anger and hostility.

It is not wise to supplement iron when there is no clear indication it is needed. Men, in particular, have difficulty excreting excess iron. White flour and many processed foods are already enriched with iron.

Geritol and many other vitamin supplements may contain added iron. Some water supplies are very high in iron. It is possible to obtain too much iron if one eats iron-enriched foods and take supplements as well.

An initial hair analysis may not reveal iron toxicity. Biounavailable iron may cause a low hair level, as with biounavailable copper. Often, several months on a nutritional program are needed until excess iron begins to be eliminated through the hair.

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